KVM SWITCH

SV831HD
SV1631HD
SV1631D1U

Instruction Guide

* SV831HD shown
* Actual product may vary from photo

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Introduction

Thank you for purchasing a StarTech.com 1U KVM switch. Our universal KVM switches let you control either 8 (SV831HD) or 16 (SV1631HD) USB or PS/2 computers using only one PS/2 keyboard, mouse, and monitor. Our slim 16-port PS/2 switch (SV1631D1U) lets you connect 16 PS/2 computers using only one PS/2 keyboard, mouse, and monitor. Switching between your PCs is easy thanks to pushbutton or hot-key commands. These slim KVM switches take up only 1U of space in your cabinet and use rear cable connections for maximum space efficiency. Each KVM can be cascaded to support 64 (SV831HD) or 136 (SV1631HD, SV1631D1U) computers and support both Manual and Auto scan modes for easy monitoring of your PCs.

Features

- **SV831HD, SV1631HD:** Supports PCs with both USB and PS/2 keyboard/mouse connections
- **SV1631D1U:** Supports PCs with PS/2 keyboard/mouse connections
- Saves valuable rack space with thin 1U height form factor
- Supports hot-plugging: allows computers to be added or removed without having to reboot the other connected systems
- **SV831HD, SV1631HD:** Works with PC, Mac, and Sun systems
- Fast switch-buttons for each port provide quick access to any connected system
- Uses On-Screen Display (OSD) menu for easy PC selection and switch configuration
- Can be cascaded to control up to 64 (SV831HD) or 136 (SV1631HD, SV1631D1U) PCs
- Visible front panel LEDs show status for each connected device
- Allows effortless monitoring of devices through configurable Auto and Manual scan modes
- Acts independent of operating system: no software or drivers required
- Complies with Plug and Play specifications
- Backed by StarTech.com's 3-year warranty

Before You Begin

To ensure a quick and easy console installation, please read through this section carefully before attempting to install the device.

Contents

This package should contain:

- 1 x StarView KVM Switch (SV831HD, SV1631HD, SV1631D1U)
- 1 x power adapter (9V 600mA DC)

System Requirements

- 1 x PS/2 mouse (6-pin mini-DIN male connector)
- 1 x PS/2 keyboard (6-pin mini-DIN male connector)
- 1 x HD-15 monitor (Male connector)
- **SV831HD, SV1631HD:** StarTech.com's 2-in-1 USB KVM cables or 3-in-1 PS/2 KVM cables
- **SV1631D1U:** StarTech.com's 3-in-1 PS/2 KVM cables

Installation

This section will guide you through the hardware installation of your KVM switch. Please read through this section carefully and complete each step in the order listed.

1. Make sure all computers and devices are powered off.
2. Plug a PS/2 keyboard, PS/2 mouse, and monitor into the labelled keyboard, mouse, and monitor Console ports on the back of the KVM.
3. Attach each of your managed computers to your StarView KVM switch's **PC** ports using ultra-thin KVM cables. The SV831HD and SV1631HD are capable of using either 2-in-1 USB or 3-in-1 PS/2 cables. The SV1631D1U uses 3-in-1 PS/2 cables. Use the cables to connect one of the PC ports on the back of the switch to the computer's keyboard, mouse, and video ports. **Note:** These instructions are for a single KVM switch only. For information on cascading multiple KVMs, see **Cascade Configuration** below.
4. Plug the 9V DC power adapter into the power port on the KVM.
5. Turn on your computers.

Note: After the initial power up, you can hot-plug additional computers or slave KVM switches without having to power down your KVM.

Cascade Configuration

You can connect a second level of KVMs to one or more of your **Master** KVM switch's PC ports. The KVM switches connected to the Master switch are know as **Slaves**. Once connected, the KVM switches will automatically configure themselves as either Masters or Slaves. You can only connect an equal or "smaller" KVM to the Master KVM. For example, a 16-port Master KVM switch can have both 16-port and 8-port slaves. An 8-port Master KVM switch can only have 8-port KVM slaves or lower.

The 8-port KVM can support 64 PCs, with 8 8-port Slave KVMs, each connected to 8 PCs. The 16-port KVM can support 136 computers, with 8 16-port Slave KVMs, each connected to 16 computers. The Slave KVM's must be connected to the **1~8** ports, not the A~H ports.

To cascade your KVMs, use a 3-in-1 PS/2 KVM cable to connect one of your Master switch's **PC** ports to the Slave switch's **PC 1~8** ports. When turning on your cascaded switches, turn on the Master switch before turning on any of the others.

Operating Your KVM Switch

To toggle between computers, you can use the hot-key commands, OSD (On-Screen Display) menu or by using the pushbuttons.

Push Buttons

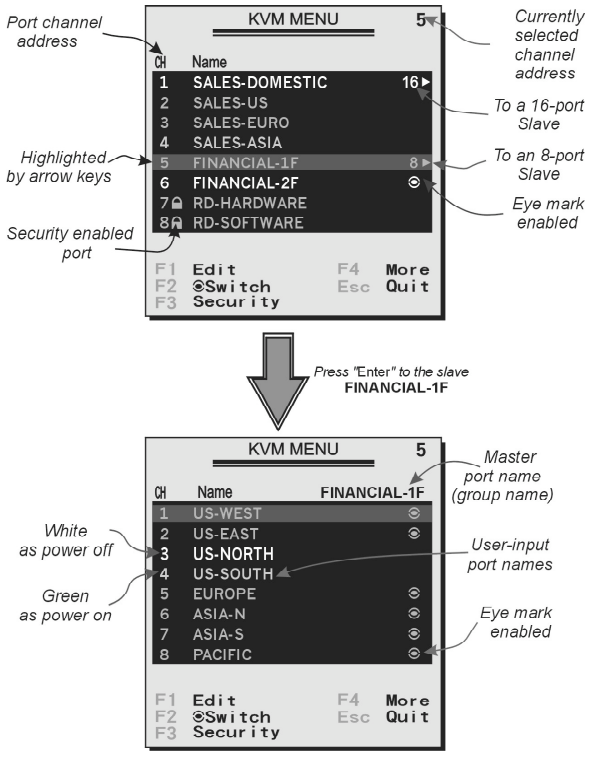
The LEDs on the KVM switch indicate which computers are turned on (solid green) and which computer is selected (solid red). The indicator flashes red when in Auto or Manual Scan mode. You can press any of the corresponding pushbuttons to select the active computer. On the 16 port models, Port 1 and Port A share the same pushbutton, as do Port 2 and Port B, etc. To select Ports 1 through 8, press the pushbutton once. To select Ports A through H, press and hold the pushbutton for two seconds. Alternatively, if Port 1 is currently selected and you want to select Port A, you can press the pushbutton once to switch to Port A.

The **K/M Reset** function reconfigures your system without powering down your computers or your KVM switch. To reset the switch, press and hold the front-panel **1** and **2** buttons simultaneously.

The **Auto-Scan** function automatically scrolls through your connected computers. Press and hold the front-panel **7** and **8** buttons simultaneously to enter Auto Scan mode.

OSD Operations

By hitting the left <CTRL> key twice within two seconds, you may see the 'Hotkey Menu' if it is enabled (an OSD option). Or, by hitting the left <CTRL> key three times within two seconds, you will see a 'KVM MENU' screen (below) showing a list of the computers with corresponding channel addresses, names and status.



- The port number (or channel address) of the currently selected computer is displayed in **red** in the top right of the screen.

- The device name is **green** if the device has power and is ready for selection or **white** if it has no power. The OSD menu automatically updates the color when it is activated. On the 16-port models, use the <Page Up> and <Page Down> keys to view the other 8 computers.

- Use the <UP>, <DOWN>, 1~8, or A~H keys to highlight a computer and <ENTER> to select it.

- Press <ESCAPE> to exit the OSD menu and remove the OSD menu from the screen.

- A triangle mark on the right side of the screen indicates the port is cascaded to a Slave KVM; the number at the left of the triangle mark shows the number of ports the Slave has. With that port highlighted, press <ENTER> to bring up a screen listing the computers connected to that Slave. The name of the Slave KVM will be shown at the upper right corner of the OSD menu.

- An eye mark on the right side of the screen indicates that the computer has been selected to be monitored in Scan mode. You can switch this mark on and off using function key <F2>.

- Press <ESCAPE> to exit the OSD and to return to using the selected computer. The computer name is shown on the screen.

OSD Function Keys

You can use the function keys when the OSD menu is active.

Function key <F1>
Edits the name of a computer or a Slave KVM. First, use the <UP> and <DOWN> arrow keys to highlight a channel then press <F1> followed by name entry. Your name can be up to **14** characters long. Valid characters are **A** to **Z**, **0** to **9**, and the dash character. Lowercase letters are converted to uppercase. Press <BACKSPACE> to delete a letter one at a time. Non-volatile memory stores all name entries until you change, even if the unit is powered down.

Function key <F2>
Marks a computer to be scanned by switching the eye mark on or off. First, use the <UP> and <DOWN> arrow keys to highlight the device, then press <F2> to switch its eye mark on or off. If *Scan Type* is **Ready PC + Eye** (see Function key <F4>), only the powered and eye-marked computers will be displayed in Scan mode.

Function key <F3>
Locks a device (a computer or a Slave) from unauthorized access. To lock a device, use the <UP> and <DOWN> arrow keys to highlight it, then press <F3>. Now, enter up to 4 characters (**A** to **Z**, **0** to **9**, dash) followed by <ENTER> as new password. A Security-enabled device is marked with a lock beside its channel number. To permanently disable the security function from a locked device, highlight it, press <F3> then enter the password.

If you want to access the locked device temporarily, simply highlight it and press <ENTER>. Enter the password and you can access the device. The device is automatically re-locked once you switch to another device. During Scan mode, OSD skips the security-enabled device.

If you forget the password, the only way to permanently erase all passwords is to press and hold pushbuttons **1** and **2**, then press and hold pushbuttons **7** and **8**. Release **7** and **8** then release **1** and **2**.

Function key <F4>
More functions are available by hitting <F4>. A new screen pops up displaying the functions described below. Most of them are marked with a triangle indicating there are options to choose from. Using the <UP> and <DOWN> arrow keys, select the function and press <ENTER>. Available options will be shown in the middle of the screen. To select an option, use the <UP> and <DOWN> arrow keys then press <ENTER> to select the option. You can press <ESCAPE> to exit at any time.

Auto Scan
In this mode, the KVM automatically switches from one power-on computer to the next sequentially in a fixed interval. During *Auto Scan* mode, the OSD displays the name of the selected computer. When *Auto Scan* detects any keyboard or mouse activity, it suspends the scanning until activity stops; it then resumes with the next computer in sequence. To abort *Auto Scan* mode, press the left <CTRL> twice, or press any front button. *Scan Type* and *Scan Rate* set the scan pattern. *Scan Type* (<F4>: More\Scan Type) determines if scanned computers must also be eye mark selected. S*can Rate* (<F4>: More\Scan Rate) sets the display interval when a computer is selected before selecting the next one.

Manual Scan
Scans through power-on computers using keyboard control. *Scan Type* (<F4>: More\Scan Type) determines if scanned computers must also be eye mark selected. Press the up arrow key to select the previous computer and the down arrow key to select the next computer. Press any other key to abort the *Manual Scan* mode.

Audio Stick
An optional multimedia module can be LINKed to the back of each StarView for selecting microphone and stereo speaker signals. There are two options for *Audio Stick*: **On** and **Off**. When set to **On**, audio selection follows computer selection. When set to **Off**, audio selection stops following computer selection. Off mode is useful if you want to listen to a particular computer's audio signal while operating other computers. The non-volatile memory stores the *Audio Stick* setting.

Scan Type
Ready PC + Eye: In Scan mode, scans through only power-on and eye-marked selected computers.
Ready PC: In Scan mode, scans through all power-on computers.
Eye only: In Scan mode, scans through any Eye-selected computer regardless of power status.
The non-volatile memory stores the *Scan Type* setting.

Scan Rate
Sets the duration of a computer displayed in *Auto Scan* mode. The options are **3 seconds, 8 seconds, 15 seconds** and **30 seconds**. The non-volatile memory stores the *Scan Rate* setting.

Keyboard Speed
StarView offers a keyboard typematic setting that overrides the typematic settings in the BIOS and Windows operating system. Available speed options are **Low**, **Middle**, **Fast** and **Faster** as **10, 15, 20** and **30 characters/sec** respectively. The non-volatile memory stores the Keyboard Speed setting.

Hotkey Menu
When you hit the left <CTRL> key twice within two seconds, the Hotkey Menu appears displaying a list of hot-key commands if the option is **On**. The Hotkey Menu can be turned **Off** if you prefer not to see it when the left <CTRL> key is hit twice. The non-volatile memory stores the Hotkey Menu setting.

CH Display
Auto Off: After you select a computer, the channel address and name of the computer will appear on the screen for 3 seconds then disappear automatically. **Always On**: The channel address and name of a selected computer and/or OSD status displayed on the screen all the time. The non-volatile memory stores the CH Display setting.

Position
You can choose where the selected computer name and/or OSD status is displayed on your screen during operation. The actual display position shifts due to different VGA resolution, the higher the resolution the higher the display position. The non-volatile memory stores the Position setting.
UL as Upper Left **UR** as Upper Right
LL as Lower Left **LR** as Lower Right
MI as Middle

Country Code for Sun (SV831HD, SV1631HD only)
Sun keyboards of different languages have different layouts. This KVM switch can emulate a Sun keyboard for a specific language type (or country). Select the proper country code that matches **all** your Sun computers.

Function Key <F5> (SV831HD, SV1631HD only)
Switches the Sun mark on or off. The Sun mark indicates that the port is connected to a Sun server. First, use the <UP> and <DOWN> arrow keys to highlight the device, then press <F5> to switch its Sun mark on or off. When a Sun-marked port is selected, the KVM will translate the keys from a PS/2 keyboard to a Sun keyboard. For more information see **Keyboard Mapping** on **page 10**.

ESC: To exit the OSD, press the <ESCAPE> key

Hot Key Commands

A hot key command is a short keyboard sequence to select a computer, activate a computer scan, etc. A hot-key sequence starts with two **Left Control** keystrokes followed by one or two more keystrokes. A built-in buzzer generates a high-pitched beep for correct hot-key sequences and a low-pitched beep for errors or bad key combinations that will not be carried out.

The short form hot-key menu can be turned on as an OSD function (<F4>: More\Hotkey Menu) every time the left <CTRL> key is pressed twice.

- **Left Ctrl** refers to the <CTRL> key located at the left side of the keyboard.
- **1~8/A~H** refer to the number keys 1 to 8 at the upper row of the keyboard (Do not use the keypad at the right of the keyboard) and character keys A to H (case insensitive).

Selecting a Computer
To select a computer by hot-key command you need to know the device's channel address, which is determined by the StarView connection.

- For a computer connected to a Master KVM, the address is represented by the PC port number (1~8 or A~H). For example, to access the PC plugged into port 7 of the Master KVM switch, type:

  left *Ctrl* + **left *Ctrl*** + **7**

- For a computer connected to a Slave KVM, you need to know the channel address of the Slave unit (1~8) and then the channel address of the device (1~8 or A~H). (Please note that only Master's PC 1 to PC 8 ports can be connected to a Slave.) For example, to access the computer plugged into port C of the Slave KVM Switch that is plugged into Port 6 of the Master KVM, type:

  left *Ctrl* + **left *Ctrl*** + ***6*** + ***C***

Auto Scan
Auto Scan automatically scans through power-on computers at a fixed interval:

left *Ctrl* + **left *Ctrl*** + ***F1***

When *Auto Scan* detects any keyboard or mouse activity, it suspends the scanning until activity stops; it then resumes with the next computer in sequence. The length of the *Auto Scan* interval (*Scan Rate)* is adjustable (see *Scan Rate* on the following page). To abort the *Auto Scan* mode, press the **left *Ctrl*** key twice.

Note: *Scan Type* (See "OSD Function Keys: F4") determines whether eye mark is necessary during *Auto Scan*.

Manual Scan
Manual Scan enables you to manually switch back and forth between power-on computers:

left *Ctrl* + **left *Ctrl*** + ***F2***

Press the up or down arrow to select the previous or next computer in sequence. Press any other key to abort the *Manual Scan.*

Note: *Scan Type* (See "OSD Function Keys: F4") determines whether eye mark is necessary during *Manual Scan*.

Scan Rate
Scan Rate sets the duration between switching to the next computer in *Auto Scan* mode:

left *Ctrl* + **left *Ctrl*** + ***F3***

The StarView gives off one to four beeps indicating scan interval of ***3***, ***8***, ***15*** and ***30*** seconds respectively.

Keyboard Typematic Rate
You can adjust the keyboard typematic rate (given in characters/sec). This setting over-rides the keyboard typematic rate of your BIOS and any operating system.

left *Ctrl* + **left *Ctrl*** + ***F4***

The StarView gives off 1 to 4 beeps indicating ***10***, ***15***, ***20*** and ***30*** characters/sec respectively.

Audio Stick
An optional multimedia module can be LINKed to the back of each StarView for selecting microphone and stereo speaker signals. There are two options for *Audio Stick*: **On** and **Off**. When set to **On**, audio selection follows computer selection. When set to **Off**, audio selection stops following computer selection. It is useful if you want to listen to a particular computer's audio signal while operating other computers.

left *Ctrl* + **left *Ctrl*** + ***F5***

The StarView gives off 1 or 2 beeps corresponding to ***On*** and ***Off*** respectively.

Changing Your Configuration

After the initial power up, any device (either a KVM or a PC) can be added or removed from any **PC x** port on the KVM without having to power down the Master KVM Switch. Make sure that devices are turned off before connecting them to the Master KVM switch.

Note: After changing your configuration, the OSD will automatically update to reflect the new configuration.

Keyboard Mapping (SV831HD, SV1631HD only)

These KVMs are able to emulate a Sun keyboard and mouse when a computer is marked with a **Sun** in OSD menu by Function key <F5>. A Sun keyboard has more keys than a standard PS/2 keyboard. These extra keys are simulated by tapping the lower-right **Ctrl** followed by one of the function keys on the PS/2 keyboard (i.e. combo key). For instance, tap the lower-right **Ctrl** key, and then tap the function key **F7** to activate **Open** for a Sun computer.

From PS/2 keyboard	*Map to Sun keyboard*	*Map to Mac keyboard*
right - **Ctrl 1**		
right - **Ctrl 2**		
right - **Ctrl 3**		
right - **Ctrl 4**	note	Power
right - **Ctrl F1**	**Stop**	
right - **Ctrl F2**	**Again**	
right - **Ctrl F3**	**Props**	
right - **Ctrl F4**	**Undo**	
right - **Ctrl F5**	**Front**	
right - **Ctrl F6**	**Copy**	
right - **Ctrl F7**	**Open**	
right - **Ctrl F8**	**Paste**	
right - **Ctrl F9**	**Find**	
right - **Ctrl F10**	**Cut**	
Print Screen		**F13**
Scroll Lock		**F14**
Pause Break		**F15**
right - **Ctrl H**	**Help**	
right -	*right* -	*right* -
left -	*left* -	*left* -
Context key	**Compose**	
right - **Alt**	**Alt Graph**	*right* - **Option**
left - **Alt**	**Alt**	*left* - **Option**

Note: For Sun: The switch does not support LowPower option under Power Off Select after the command right - Ctrl 4.

* For Japanese keyboard: The leading key for the Combo Key is replaced by 半角/全角.

Troubleshooting

If you are experiencing trouble with your devices, first make sure that all cables are connected to their proper ports and are firmly seated. You may also want to try resetting the devices by pressing and holding the front-panel **1** and **2** pushbuttons.

Mouse does not work.

- Make sure there is only one mouse driver installed in each computer.

Monitor works, but keyboard and mouse do not.

- Make sure you haven't swapped the keyboard and mouse cables

VGA image is not clear.

- You may be using poor quality VGA cables. Make sure you are using UL-2919 rated, double-shielded VGA cables.

No OSD screen or screen image.

- You may have selected a power-off computer. Use the pushbuttons or to select a computer that is turned on.

There is a keyboard error on boot.

- You may have a loose keyboard connection. Make sure your keyboard cables are well-seated.

The letters on the TFT LCD display are blurry or have shadows.

- You may have improper resolution settings. Under the Control Panel, set the VGA output of your computers to match the highest resolution of the LCD monitor with "Large Font" selected.

Master/Slave does not work or there is a double OSD.

- Make sure that the slave's Console port is connected to one of the Master's PC ports.
- Perform a KVM Reset.
- Make sure that you have removed all power sources from the Slave unit before connecting it to the Master KVM switch.

The Up and Down arrows don't work in manual scan mode.

- Make sure more than one computer is turned on. Manual Scan only works with power-on computers.
- Check the Scan Type (from the OSD menu) and make sure you have selected the proper computers.

Auto Scan does not work, the StarView beeps and the indicators flash red.

- Make sure more than one computer is turned on. Auto Scan only works with powered on computers.
- Check the Scan Type (from the OSD menu) and make sure you have selected the proper computers.
- Press the Left Control key twice or press any front pushbutton to abort the Auto Scan.

OSD menu is not in the proper position.

- The OSD menu has a fixed resolution and its size varies depending on the monitor. Use <F4> More/ Position (from the OSD menu) to move the OSD menu to a different location.

Cannot select a computer connected to a Slave.

- Make sure that the Slave's Console port is connected to one of the Master's PC ports.
- Only ports PC1 to PC8 can be connected to Slaves, even if the Master KVM has 16 PC ports.
- Only one level of Slave KVMs is allowed.

Keyboard strokes are shifted.

- Press both **Shift** keys.

Technical Specifications

	SV831HD	SV1631HD	SV1631D1U
User ports	1	1	1
Computer ports	8	16	16
Cascade control PC number	Up to 64	Up to 136	Up to 136
Cable Type	2-in-1 USB KVM 3-in-1 PS/2 KVM	2-in-1 USB KVM 3-in-1 PS/2 KVM	3-in-1 PS/2 KVM
Front panel control	8	16	16
Hot plug and play	Yes	Yes	Yes
Hot key control	Yes	Yes	Yes
Rack mountable	19” industry standard	19” industry standard	19” industry standard
Auto scan interval	3, 8, 15, 30 seconds	3, 8, 15, 30 seconds	3, 8, 15, 30 seconds
Programmable scan pattern	Yes	Yes	Yes
Computer name entry	Up to 14 characters	Up to 14 characters	Up to 14 characters
Security control	4 characters per computer	4 characters per computer	4 characters per computer
Cable length (max.)	100 ft (30m) at Console PS/2: 100 ft (30m) at PC USB: 16 ft (5m) at PC	100 ft (30m) at Console PS/2: 100 ft (30m) at PC USB: 16 ft (5m) at PC	100 ft (30m) at Console PS/2: 100 ft (30m) at PC
VGA	1920x1440, DDC2B	1920x1440, DDC2B	1920x1440, DDC2B
Computer Connector	8 x HD-DB-15 female	16 x HD-DB-15 female	16 x HD-DB-15 female
Console Connectors:			
Mouse	1 x PS/2 female	1 x PS/2 female	1 x PS/2 female
Keyboard	1 x PS/2 female	1 x PS/2 female	1 x PS/2 female
Monitor	1 x HD-DB-15 female	1 x HD-DB-15 female	1 x HD-DB-15 female
Dimensions (H x W x D)	1.7 x 17.2 x 7.0 in. (44 x 436 x 180 mm)	1.7 x 17.2 x 7.0 in. (44 x 436 x 180 mm)	1.7 x 17.2 x 7.0 in. (44 x 436 x 180 mm)
Power Supply (min.)	9V DC 600mA	9V DC 600mA	9V DC 600mA

Technical Support

The following technical resources are available for this StarTech.com product:

On-line help:

We are constantly adding new information to the *Tech Support* section of our web site. To access this page, click the *Tech Support* link on our homepage, **www.startech.com**. In the tech support section there are a number of options that can provide assistance with this card.

Knowledge Base - This tool allows you to search for answers to common issues using key words that describe the product and your issue.

FAQ - This tool provides quick answers to the top questions asked by our customers.

Downloads - This selection takes you to our driver download page where you can find the latest drivers for this product.

Call StarTech.com tech support for help:

USA/Canada: 1-519-455-4931

UK/Ireland/Europe: 00-800-7827-8324

Support hours: Monday to Friday 9:00AM to 5:00PM EST (except holidays)

Warranty Information

This product is backed by a three-year warranty. In addition StarTech.com warrants its products against defects in materials and workmanship for the periods noted below, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

Limitation of Liability

In no event shall the liability to StarTech.com Ltd. (or its officers, directors, employees or agents) for any damages (whether direct or indirect, special, punitive incidental, consequential, or otherwise), loss of profits, loss of business, or any pecuniary loss, arising out of related to the use of the product exceed the actual price paid for the product. Some states do not allow the exclusion or limitation of incidental or consequential damages. If such laws apply, the limitations or exclusions contained in this statement may not apply to you.

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference; and (2) this device must accept any interference received, including interference that may cause undesired operation.

November 3, 2003